

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id **2104** Component Natural Gas Engine Fluid DIESEL ENGINE OIL SAE 15W40 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

Wear

Metal levels are typical for a new component breaking in.

Contamination

There is no indication of any contamination in the oil.

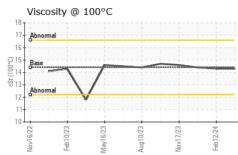
Fluid Condition

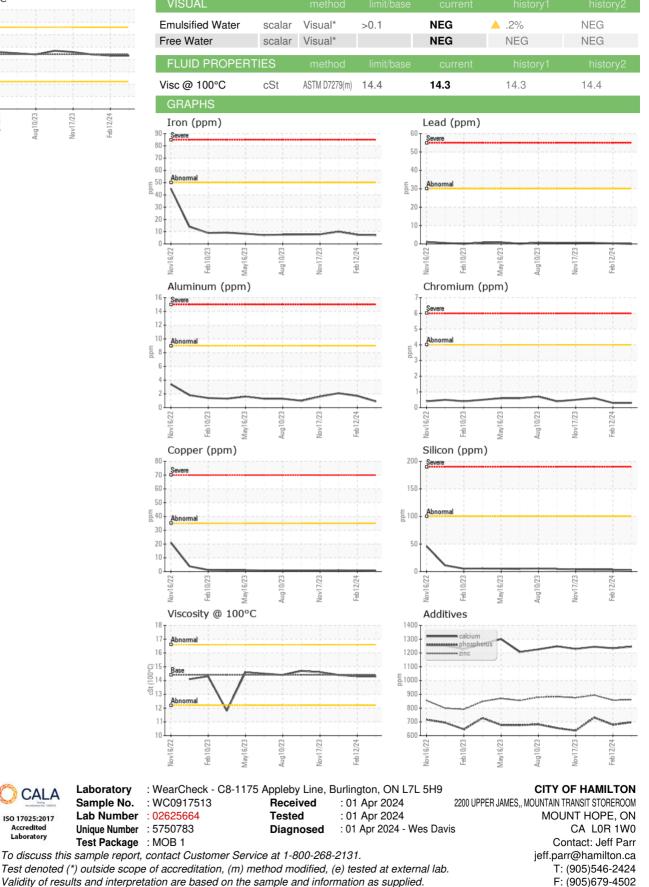
The condition of the oil is acceptable for the time in service.

		HOLOLL				
SAMPLE INFORM	1ATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0917513	WC0890920	WC0891146
Sample Date		Client Info		25 Mar 2024	12 Feb 2024	31 Dec 2023
Machine Age	kms	Client Info		108355	99672	90513
Oil Age	kms	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	ABNORMAL	NORMAL
CONTAMINATION	١	method	limit/base	current	history1	history2
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method			0.0	
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>50	7	8	10
Chromium	ppm	ASTM D5185(m)		، <1	<1	<1
Nickel	ppm	ASTM D5185(m)	>2	<1	<1	<1
Titanium	ppm	ASTM D5185(m)	~_	0	0	0
Silver		ASTM D5185(m)	>3	0	0	0
Aluminum	ppm	ASTM D5185(m)		<1	2	2
Lead	ppm	ASTM D5185(m)	>9 >30	<1	<1	<1
Copper	ppm	ASTM D5185(m)		0 <1	<1	<1
	ppm	()		<1 0		<1
Tin	ppm	ASTM D5185(m)	>4		<1 0	0
Antimony	ppm	ASTM D5185(m)		0		
Vanadium	ppm	ASTM D5185(m)		0	0	0
Beryllium	ppm	ASTM D5185(m)		0	0	0
Cadmium	ppm	ASTM D5185(m)		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	250	22	18	13
		ASTM D5185(m)	10	0	0	0
Barium	ppm					
Barium Molybdenum	ppm ppm	ASTM D5185(m)	100	53	54	55
		· · ·	100	53 0	54 0	55 0
Molybdenum	ppm	ASTM D5185(m)	100 450			
Molybdenum Manganese	ppm ppm	ASTM D5185(m) ASTM D5185(m)		0	0	0
Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	450	0 838	0 778	0 816
Molybdenum Manganese Magnesium Calcium	ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	450 3000	0 838 1246	0 778 1234	0 816 1245
Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	450 3000 1150	0 838 1246 697	0 778 1234 679	0 816 1245 732
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	450 3000 1150 1350	0 838 1246 697 861	0 778 1234 679 857	0 816 1245 732 894
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	450 3000 1150 1350	0 838 1246 697 861 1936	0 778 1234 679 857 2083	0 816 1245 732 894 2112
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	450 3000 1150 1350 4250	0 838 1246 697 861 1936 <1 current	0 778 1234 679 857 2083 <1	0 816 1245 732 894 2112 <1
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS	ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) method ASTM D5185(m)	450 3000 1150 1350 4250 Imit/base >+100	0 838 1246 697 861 1936 <1 current 2	0 778 1234 679 857 2083 <1 history1 3	0 816 1245 732 894 2112 <1 kistory2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	450 3000 1150 1350 4250 limit/base	0 838 1246 697 861 1936 <1 current	0 778 1234 679 857 2083 <1 history1	0 816 1245 732 894 2112 <1 <1 history2 4
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	450 3000 1150 1350 4250 limit/base >+100 >158	0 838 1246 697 861 1936 <1 current 2 2 2	0 778 1234 679 857 2083 <1 ×1 history1 3 3	0 816 1245 732 894 2112 <1 <1 history2 4 4
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	450 3000 1150 1350 4250 binit/base >+100 >158 >20	0 838 1246 697 861 1936 <1 current 2 2 2 0 0	0 778 1234 679 857 2083 <1 history1 3 3 3 <1	0 816 1245 732 894 2112 <1 history2 4 4 4 4
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	450 3000 1150 1350 4250 limit/base >+100 >158 >20 limit/base	0 838 1246 697 861 1936 <1 current 2 2 2 0 current 0	0 778 1234 679 857 2083 <1 history1 3 3 <1 history1 0	0 816 1245 732 894 2112 <1 kistory2 4 4 4 <1 kistory2 0
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D7844* ASTM D7624*	450 3000 1150 1350 4250 imit/base >+100 >158 >20 imit/base	0 838 1246 697 861 1936 <1 current 2 2 2 0 current 0 0 10.9	0 778 1234 679 857 2083 <1 history1 3 3 <1 history1 0 0 11.4	0 816 1245 732 894 2112 <1 history2 4 4 4 <1 history2 0 12.7
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D7844* ASTM D7624* ASTM D7415*	450 3000 1150 1350 4250 imit/base >+100 >158 >20 imit/base >20 >30	0 838 1246 697 861 1936 <1 current 2 2 2 0 current 0 0 10.9 21.4	0 778 1234 679 857 2083 <1 history1 3 3 <1 history1 0 11.4 21.4	0 816 1245 732 894 2112 <1 history2 4 4 4 <1 history2 0 12.7 22.7
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRADA	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D7844* ASTM D7624* ASTM D7624*	450 3000 1150 1350 4250 imit/base >+100 >158 >20 imit/base >20 imit/base	0 838 1246 697 861 1936 <1 2 2 2 0 2 0 current 0 10.9 21.4 current	0 778 1234 679 857 2083 <1 history1 3 3 <1 history1 0 11.4 21.4 history1	0 816 1245 732 894 2112 <1 history2 4 4 4 <1 history2 0 12.7 22.7 history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D7844* ASTM D7624* ASTM D7415*	450 3000 1150 1350 4250 imit/base >+100 >158 >20 imit/base >20 >30	0 838 1246 697 861 1936 <1 2 2 2 0 2 0 0 current 0 10.9 21.4 18.5	0 778 1234 679 857 2083 <1 history1 3 3 <1 history1 0 11.4 21.4 history1 18.7	0 816 1245 732 894 2112 <1 history2 4 4 4 <1 history2 0 12.7 22.7



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